

10.—A new fish of the family Apogonidae from tropical Western Australia

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Abstract

Quinea mirifica gen. et sp. nov., of the family Apogonidae, differs from all other members of the family in that there are fourteen rays in the dorsal fin; a maximum of ten has hitherto been regarded as a family characteristic. The holotype and only specimen was collected from Cockatoo Island, tropical Western Australia. In most respects it is close to *Apogon*.

Amongst the fishes which the late Mr. G. A. Robinson of Cockatoo Island, Yampi Sound, collected for the Western Australian Museum, is a single specimen that, though undoubtedly belonging to the Apogonidae, shows some aberrant characters, on the basis of which I feel fully justified in describing it as a new species representing a new genus.

Genus *Quinea* gen. nov.

Diagnosis. Characterized by the long second dorsal fin, which has fourteen soft rays. No other genus of the family has more than ten dorsal rays. Ventral fins very long, reaching to well beyond the origin of the anal fin.

Type of the genus:

Quinea mirifica sp. nov.

D VII-I.14, A II.13, P ii.12.ii, V 1.5, Cii.15.ii, pore bearing scales in lateral line 25+2, gillrakers on outer branchial arch 3+1+13, of which the last five rudimentary.

In general appearance a typical member of the Apogonidae, total length 105 mm, standard length 80 mm, greatest depth of body 35 mm, length of head 31 mm, length of P 23 mm, length of V 30 mm, length of snout 8 mm, diameter of eye 10 mm, width of interorbital 8½ mm.

Head large, about 2.5 in standard length, eye large, snout slightly shorter than eye.

Mouth large, maxillary reaching to below posterior border of pupil, upper edge of maxillary concealed under praeorbital when mouth is closed, posterior nostril fairly large, oval, in front of middle of eye, anterior one much smaller, lower, near tip of snout and only a little above praemaxillary; praeorbital fairly narrow, its width less than half an eye's diameter; posterior border of praeoperculum almost smooth, posterior border of interoperculum finely serrated, posterior border of operculum without spines, unless a short flat projection just above the level of the middle of the eye be called such.

Dentition complete, teeth in jaws in villiform bands; similar teeth on vomer and palatines; no canines. Tongue steadily narrowing towards the tip, ending in an obtuse point.

Lateral line complete, evenly following the curve of the back, and straightening out on the caudal peduncle; pore bearing scales twenty-five, and two more on the basis of the tail.

Scales cover the whole body, but of the head only the opercles, including praeoperculum; nape naked and covered with skin which in the preserved specimen shows longitudinal striae, to only a little distance in advance of the first dorsal fin. A single scale is, however, present above the posterior part of the eye.

There are two entirely separated dorsal fins, the first one consisting of seven spines, the second with one spine and fourteen divided rays. Length of basis of D₁ 10½ mm, of D₂ 19 mm, intervening gap 4 mm.

The spines are of moderate strength. The length of the spines of D₁ is: I, minute; II, 8 mm; III, 14½ mm; IV, 15 mm; V, 13 mm; VI, 9 mm, VII, 4 mm. The spine of D₂ measures 15 mm; D₂ is rounded with the 4th and 5th rays longest, 27 mm, and subsequent rays decreasing in length towards the last one which is 11½ mm.

The anal fin consists of two spines and thirteen divided rays; the first spine measures 2 mm, the second spine measures 14 mm, the outline of the soft anal fin is slightly rounded, with the third ray longest, 21 mm, the last ray 11 mm.

Pectoral fins evenly rounded, with twelve divided rays and on each side two simple rays. The first simple ray (counting in the usual way from above downwards) is small, about one-third the length of the longest rays; the second simple ray is much longer, more than twice the length of the first simple ray and but very little shorter than the first divided ray.

Ventral fins long, with a fairly strong spine of 14½ mm length, and five divided rays, the second of which is the longest and measures 30 mm. When closed the fin is pointed, its tip reaching to the basis of the fifth anal ray, when spread out it has a more rounded appearance.

Caudal fin normally developed, probably with two rounded lobes as in other Apogonidae (the tip of the tail is damaged, so that one cannot be certain). There are twelve divided rays besides on each side two developed simple rays, as well as several rudimentary ones.

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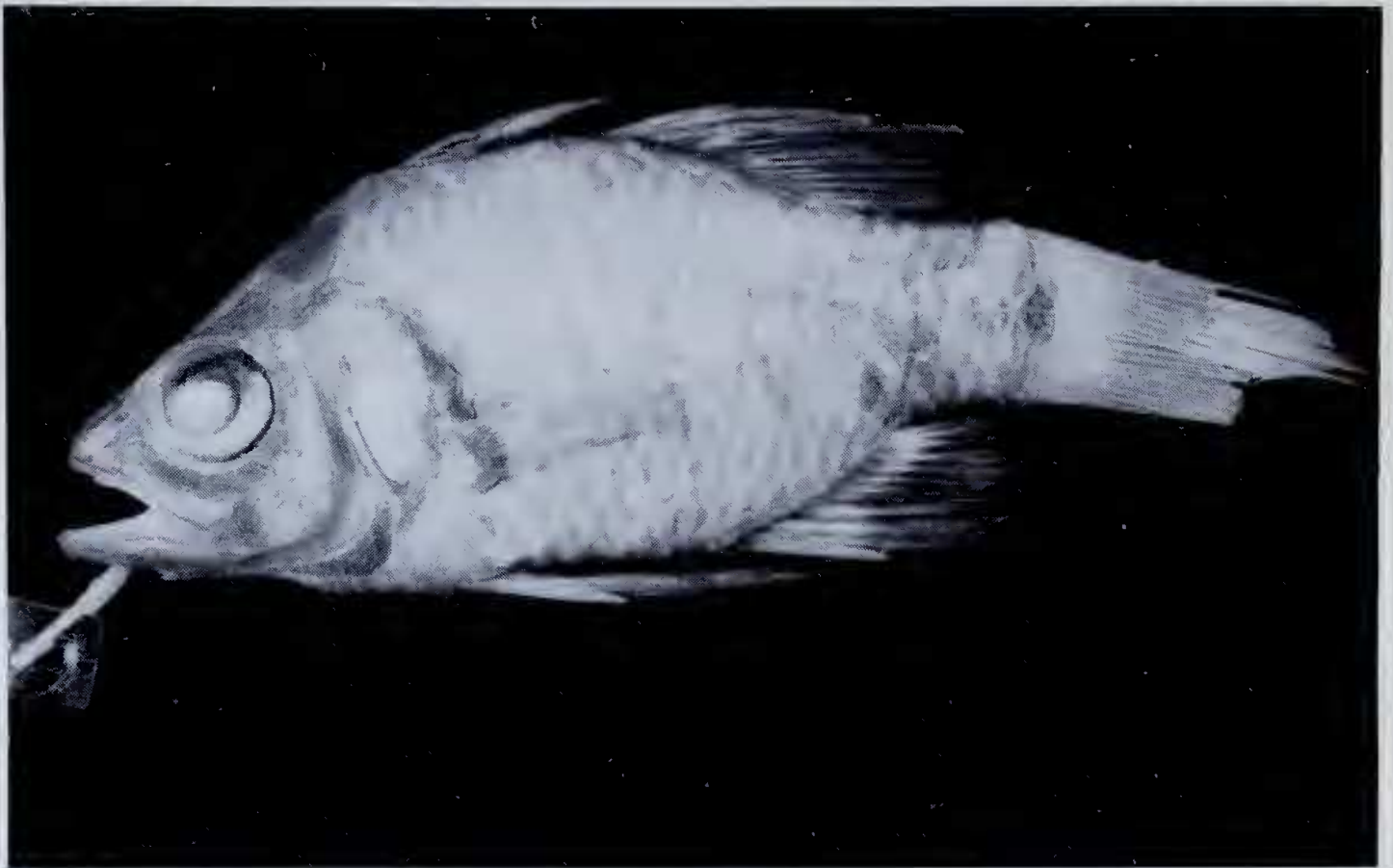


Fig. 1.—*Quinca mirifica* gen. et sp. nov.; type specimen; x 1-3.

Colours in a preserved condition. The body is light brown; each scale has a well-defined pale (yellowish-white) hind border; the vertical fins mainly blackish, but the posterior part of D_2 is whitish near the basis, and the basal one-third of A is white; pectorals hyaline, ventrals blackish, caudal hyaline.

Type and only specimen, the individual on which the above description is based, collected at Yampi Sound, Kimberley Division, Western Australia, in August or September 1959, by Mr. G. A. Robinson, W.A.M. no. P 5787.

Distribution and habitat. The single specimen known of the species is, like all Mr. Robinson's material, merely labelled "Yampi Sound", but actually Mr. Robinson's collecting was done during low tide on the reefs of Ccckatoo Island. It is evident, therefore, that *Quinca mirifica*, like other Apogonidae, is a reef-fish.

Discussion

The discovery of a species of the Apogonidae with fourteen rays in the dorsal fin is unexpected. While in many families differences in fin-ray numbers are of no more than specific value, and differ from species to species, in the Apogonidae it had become accepted that the number of rays in the dorsal fin varies only

from seven to ten, and this has been included as a family-character in recent descriptions (Weber and de Beaufort, 1929; Fowler and Bean, 1930). In view of the large number of species known in the Apogonidae it is surprising to find a species which is aberrant in this one character, although in all other characters it conforms with the family, and in particular with the genus *Apogon*.

There are few instances in which I would regard a difference in number of fin-rays as enough to establish a genus on, but in the present case, for the reasons given above, I feel fully justified in doing so. Only if in future additional species might be discovered which would bridge the gap in finray-numbers between *Apogon* and *Quinca*, a reconsideration of the validity of the latter genus could become necessary.

References

- Fowler, H. W. and Bean, B. A. (1930).—The fishes of the families Amiidae, Chandidae, Duleidae, and Serranidae, obtained by the United States Bureau of Fisheries steamer "Albatross" in 1907 to 1910, chiefly in the Philippine Islands and adjacent seas. *U.S. Nat. Mus. Bull.* 100 (10): ix + 334 pp.
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